

15_20 Rock Exc. on X-1A Sheet

Question: How is "Rock Excavation" shown on the X-1A sheet?

Answer:

To be consistent with the [Earthwork Balance Sheet](#), excavation above the proposed subgrade line should generally be shown as "Unclassified Excavation" on the X-1A sheet. It should not matter what type of material is being excavated such as suitable, unsuitable, or rock for each cross section. Conversely, excavation below the proposed subgrade such as undercut and shallow undercut will NOT be included as Unclassified Excavation, but will have their own "Undercut Excavation" column.

Geopak Earthwork LOG File

Station		(sq. ft.)	Volumes (cu. yd.)	Volumes (cu. yd.)	Factor	ordinate
10+75.00	SUITABLE					
	Common Exc	532.43	0	0	1.00	
	Subgrade Exc	0.00	0	0	1.00	
	Subsoil Exc	0.00	0	0	1.00	
	Fill	0.00	0	0	1.20	0
	ROCK					
	Common Exc	8.17	0	0	1.00	
	Subgrade Exc	0.00	0	0	1.00	
	Subsoil Exc	0.00	0	0	1.00	
	Fill	0.00	0	0	1.00	0
11+25.00	SUITABLE					
	Common Exc	481.21	939	939	1.00	
	Subgrade Exc	0.00	0	0	1.00	
	Subsoil Exc	0.00	0	0	1.00	
	Fill	0.00	0	0	1.20	939
	ROCK					
	Common Exc	62.74	66	66	1.00	
	Subgrade Exc	0.00	0	0	1.00	
	Subsoil Exc	0.00	0	0	1.00	
	Fill	0.00	0	0	1.00	1005
11+75.00	SUITABLE					
	Common Exc	321.38	743	743	1.00	
	Subgrade Exc	0.00	0	0	1.00	
	Subsoil Exc	0.00	0	0	1.00	
	Fill	4.87	5	5	1.20	1743
	ROCK					
	Common Exc	99.05	150	150	1.00	
	Subgrade Exc	0.00	0	0	1.00	
	Subsoil Exc	0.00	0	0	1.00	
	Fill	0.00	0	0	1.00	1893

"Sheet1"

2	Station	Uncl. Exc.	Embt
3			
4	Y6 RT	(cu. yd.)	(cu. yd.)
5	10+75.00	0	0
6	11+25.00	1005	0
7	11+75.00	893	5
8	12+25.00	672	6
9	12+75.00	508	3
10	13+25.00	443	3
11	13+75.00	395	5
12	14+25.00	385	7
13	14+75.00	379	8
14	15+25.00	342	6
15	15+75.00	280	1
16	16+25.00	163	0
17	16+75.00	86	1
18	17+25.77	58	1

Cross Section Summary Sheet (X-1A)

4	NOTE: EMBANKMENT COLUMN INCLUDES BACKFILL FOR UNDERCUT				
5	Station	Uncl. Exc.	Embt	Station	Uncl. Exc.
6					
7	Y6 RT	(cu. yd.)	(cu. yd.)	Y5A RT	(cu. yd.)
8	10+75.00	0	0	61+00.00	
9	11+25.00	1005	0	61+62.00	
10	11+75.00	893	5	62+13.00	
11	12+25.00	672	6	62+66.00	
12	12+75.00	508	3	63+17.00	
13	13+25.00	443	3	63+70.00	
14	13+75.00	395	5	64+22.00	
15	14+25.00	385	7	64+75.00	
16	14+75.00	379	8	65+26.00	
17	15+25.00	342	6	65+78.00	
18	15+75.00	280	1	66+30.00	
19	16+25.00	163	0	66+80.00	
20	16+75.00	86	1	67+07.01	
21	17+25.77	58	1		
22				Station	Uncl. Exc.
23	Station	Uncl. Exc.	Embt	Y5A RT	(cu. yd.)
24					
25	Y6 LT	(cu. yd.)	(cu. yd.)	69+24.26	
26	10+75.00	0	0	69+56.00	
27	11+25.00	220	0	70+06.00	

Please download the recently updated [Earthwork XSC Volume Summary](#) (X-1A sheet). Note that previous versions of the spreadsheet did not automatically add rock excavation to the total unclassified excavation column. The attached PDF should be used as an example of a typical X-1A sheet. Further enhancements to the spreadsheet will warrant a tutorial in the coming weeks. We'll keep you posted.